ORDER NO. KM48903824C1
F1

Service Manual

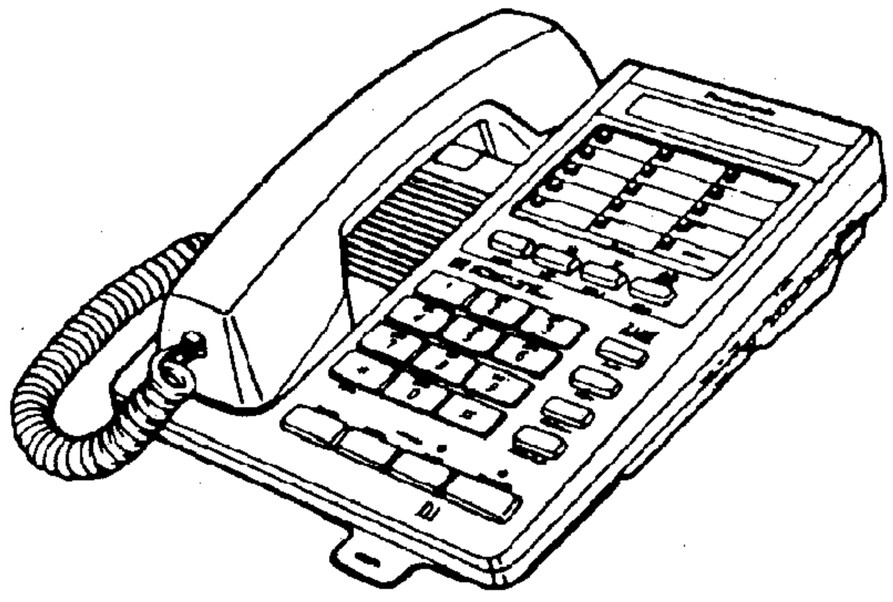
and Technical Guide

Telephone Equipment

EASA-PHONE®

iTs Integrated Telephone System

KX-T3145/55



SPECIFICATIONS/ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ
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CPU DATA/ИНФОРМАЦИЯ О ПРОЦЕССОРЕ
TERMINAL GUIDE IC`S, TRANSISTORSAND DIODES/ЦОКОЛЕВКА ИНТЕГРАЛЬНЫХ СХЕМ, ТРАНЗИСТОРОВ И ДИОДОВ
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BLOCK DIAGRAM/БЛОК-СХЕМА
SCHEMATIC DIAGRAM/ПРИНЦИПИАЛЬНАЯ СХЕМА
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ADJUSTMENT/РЕГУЛИРОВКА
HANDSET PARTS LOCATION/РАСПОЛОЖЕНИЕ ЧАСТЕЙ ТРУБКИ
CABINET & ELECTRICAL PARTS LOCATION/РАСПОЛОЖЕНИЕ ЧАСТЕЙ КОРПУСА И ЭЛЕКТРИЧЕСКИХ ЧАСТЕЙ
ACCESSORIES & PACKING MATERIALS/ПРИНАДЛЕЖНОСТИ И УПАКОВОЧНЫЕ МАТЕРИАЛЫ
REPLACEMENT PARTS LIST/СПИСОК ЗАПАСНЫХ ЧАСТЕЙ

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Panasonic

■ SPECIFICATIONS

Power Source:	Telephone line voltage Battery; 4.5 V (Three "AA" Size Penlight Batteries) ... for TEL. NO. Memory (Panasonic UM-3 or equivalent)
Memory Capacity:	28 telephone numbers, up to 16 digits for each station
Dial Speed:	Tone (DTMF)/Pulse (10 pps)
Redial:	Last dialed telephone number up to 15 times in a 10 minute period.
Pause:	Automatic Tone-Dial Detector
Speaker:	Unit; 6.5 cm (2.5") PM dynamic type receiver unit, 32Ω Handset; 3 cm ($1^{3}/_{16}$") PM magnetic type receiver unit, 150Ω
Microphone:	Electric condenser microphone
Input Jacks:	Telephone line, (L1 or L1/L2, L2), DC IN
Dimensions:	175 (W) × 93 (H) × 226 (D) mm ($6^{7}/_{8}$" × $3^{21}/_{32}$" × $8^{29}/_{32}$")
Weight:	955g (2 1b 1.5oz) with batteries

Design and specifications are subject to change without notice.

DISASSEMBLY INSTRUCTIONS

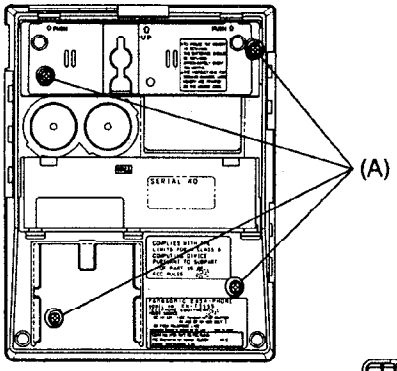


Fig. 2

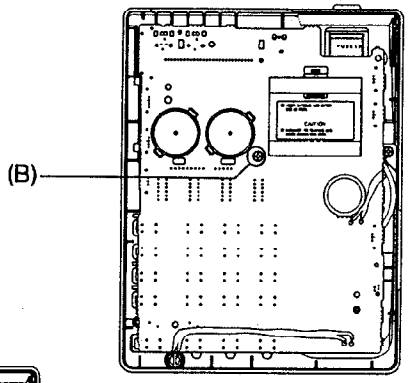


Fig. 3

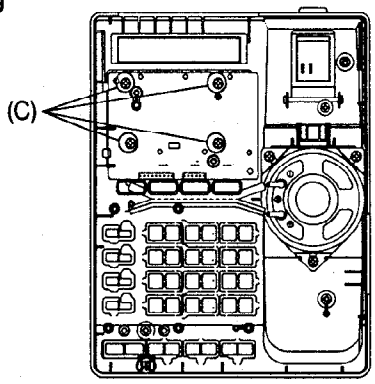


Fig. 4

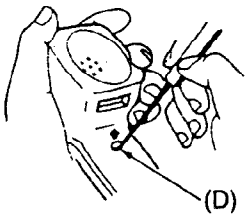


Fig. 5

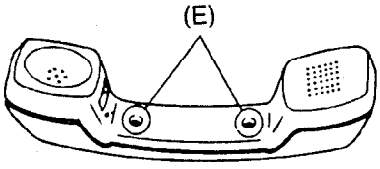


Fig. 6

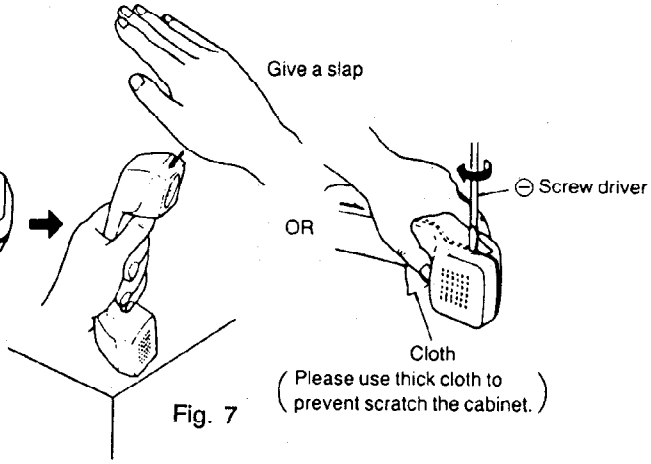
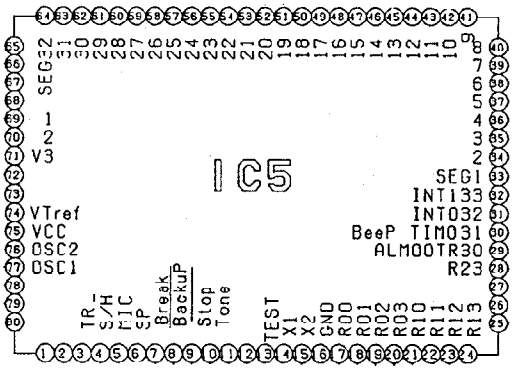


Fig. 7

Ref. No.	Procedure	Shown in Fig.—	To remove—.	Remove—.
1	1	2	Lower Cabinet	Screws (3×16) ..... (A)×4
2	1~3	3	Main Printed Circuit Board	Screws (3x 8) ..... (B)×1
3		——		Remove the P.C. Board
4	1~4	4	Memory Station Board	Screws (3×8) ..... (C)×4
5	5~7	5	Handset Cabinet	Rubbers ..... (D)x2
6		6		Screws (3×10) ..... (E)x2
7		7		Remove the Cabinet



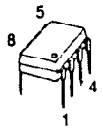
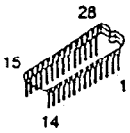
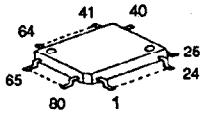
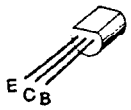
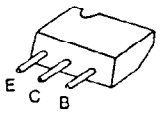
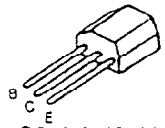
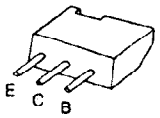
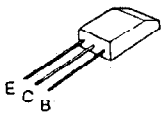
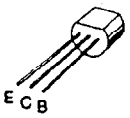
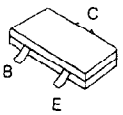
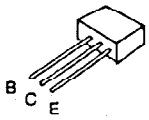
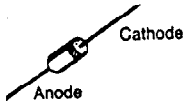
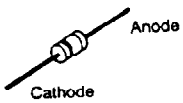
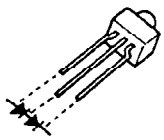
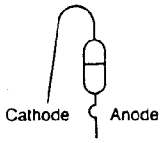
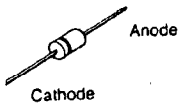
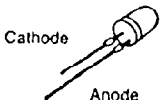
Part No.	PQVI4608A14F
Power Supply	2.7~6.0V
Program ROM	8K
Insude Data RAM	1184 X 4 bit

Pin No.	Function	High	Low
1	MUTE/Memory LED		
2	ON/OFF LED	OFF	ON
3	TR		
4	SP/HS	Speakerphone	Handset
5	MIC mute	ON	OFF
6	Dial Pulse	Break	Make
7	Back Up	OFF	ON
8	Back Up	OFF	ON
9	Stop Input	Stand by	Normal
10	Tone Signal Input	Normal	Active
11	SW Input	Disable	Enable
12	SW Input	Disable	Enable
13	TEST	Vcc	
14	Not Used		
15	Not Used		
16	GND		
17	Key Scan Output Signal		
18	Key Scan Output Signal	Normal	Active
19	Key Scan Output Signal		
20	Key Scan Output Signal		
21	Key Input		
22	Key Input	Disable	Enable
23	Key Input		
24	Key Input		
25	Key Scan Output Signal		
26	Key Scan Output Signal	Normal	Active
27	Key Scan Output Signal		
28	Key Scan Output Signal		
29	Alam Out	Active	Normal
30	Audible Tone Out	Normal	Active
31	Interrup Signal Input	Normal	Active
32	Hook SW Input		
33	SEG1		
34	SEG2		

Pin No.	Function	High	Low
35	SEG3		
36	SEG4		
37	SEG5		
38	SEG6		
39	SEG7		
40	SEG8		
41	SEG9		
42	SEG10		
43	SEG11		
44	SEG12		
45	SEG13		
46	SEG14		
47	SEG15		
48	SEG16		
49	SEG17		
50	SEG18		
51	SEG19		
52	SEG20		
53	SEG21		
54	SEG22		
55	SEG23		
56	OPEN		
57	OPEN		
58	OPEN		
59	OPEN		
60	OPEN		
61	OPEN		
62	OPEN		
63	OPEN		
64	OPEN		
65	COM1		
66	COM2		
67	COM3		
68	COM4		
69	V1		
70	V2		
71	V3		
72	DTMF Output		Normal
73	DTMF Output		
74	OPEN		
75	Vcc	Vcc	
76	Sistem Clock		
77	Sistem Clock		
78	RESET	Active	Normal
79	LCD Contrast Control		
80	LCD Contrast Control		

- Pin 1 and 2 output the speakerphone ON/OFF, and the Mute/Memory LED indicators control. While the LED lights the output is at the low level.
- Pin 3 outputs the Tip Ring control signal. When speakerphone mode (Handset is ON mode) , it outputs a low level.
- Pin 4 outputs the speakerphone/handset selector signal. (H:Speakerphone, L:Handset)
- Pin 5 and 6 are the muting control signal. During muting, its output is high level.
- Pin 7 is an output to control the Make/Break of the pulse dialing. During Break, its output is a high level.
- Pin 8 outputs the signal for the battery back up when Off-Hook.
- Pin 9 inputs the stop detector signal. (memory back up condition to the CPU). When inputting the stop detector, its input is a high level.
- Pin 10 is the detector input for each tone from the telephone line. When a tone signal is detected, its level is a low .
- Pin 11 inputs the Line1, HOLD, CONFERENCE switch signal and the option data.
- Pin 12 inputs the Line2, TONE/PULSE switch signal and the option data.
- Pin 17~20 output the scanning signal to the Dial,MUTE, FLASH, REDIAL, PAUSE, LINE1, LINE2, HOLD, CONFERENCE, TONE/PULSE switch and the option data.
- Pin 21~24 are the key data input ports.
- Pin 25~28 output the scanning signal to station key, the MEMO, LOWER, Hook Switch and the option data.
- Pin 30 is the terminal for the Audible Tone signal output.
- Pin 31 inputs the interrupt of the PROGRAM and ON/OFF and Hook switch signal, its input is a low level.
- Pin 32 inputs the Hook switch signal.
- Pin 33~55 output the LCD segment control signal.
- Pin 65~68 output the common signal of LCD.
- Pin 69~71 are the + power supply of LCD.
- Pin 79 and 80 output the LCD contrast control.

TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

 IC1, 2, 4	 IC3	 IC5	 Q1, 7, 13	 Q2, 8, 16
 Q3, 4, 9, 10, 14, 15, 17~19, 27, 29, 30, 32, 33	 Q5, 6, 11, 12, 25, 28, 31, 34~36	 Q15	 Q19, 38	 Q20, 22, 23, 26, 37
 Q21, 24	 D1~5, 7~11, 18, 19, 21, 22, 29, 30, 32, 33, 35~40, 43, 45~60, 63, 64, 66~77, 80, 82~86	 D6, 12, 14~17, 20, 25~28	 D23, 34	 D42
 D62	 D78, 79			

EXTENSION CORD CONNECTING METHOD

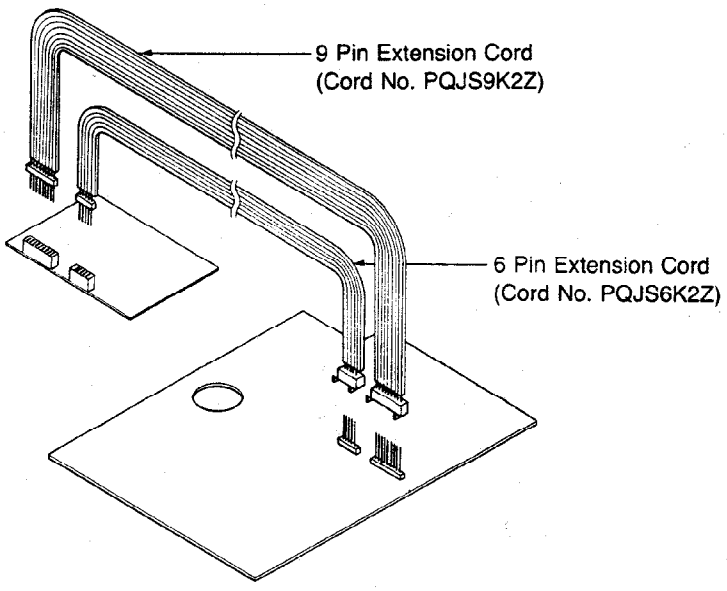
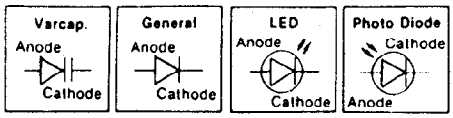


Fig. 8

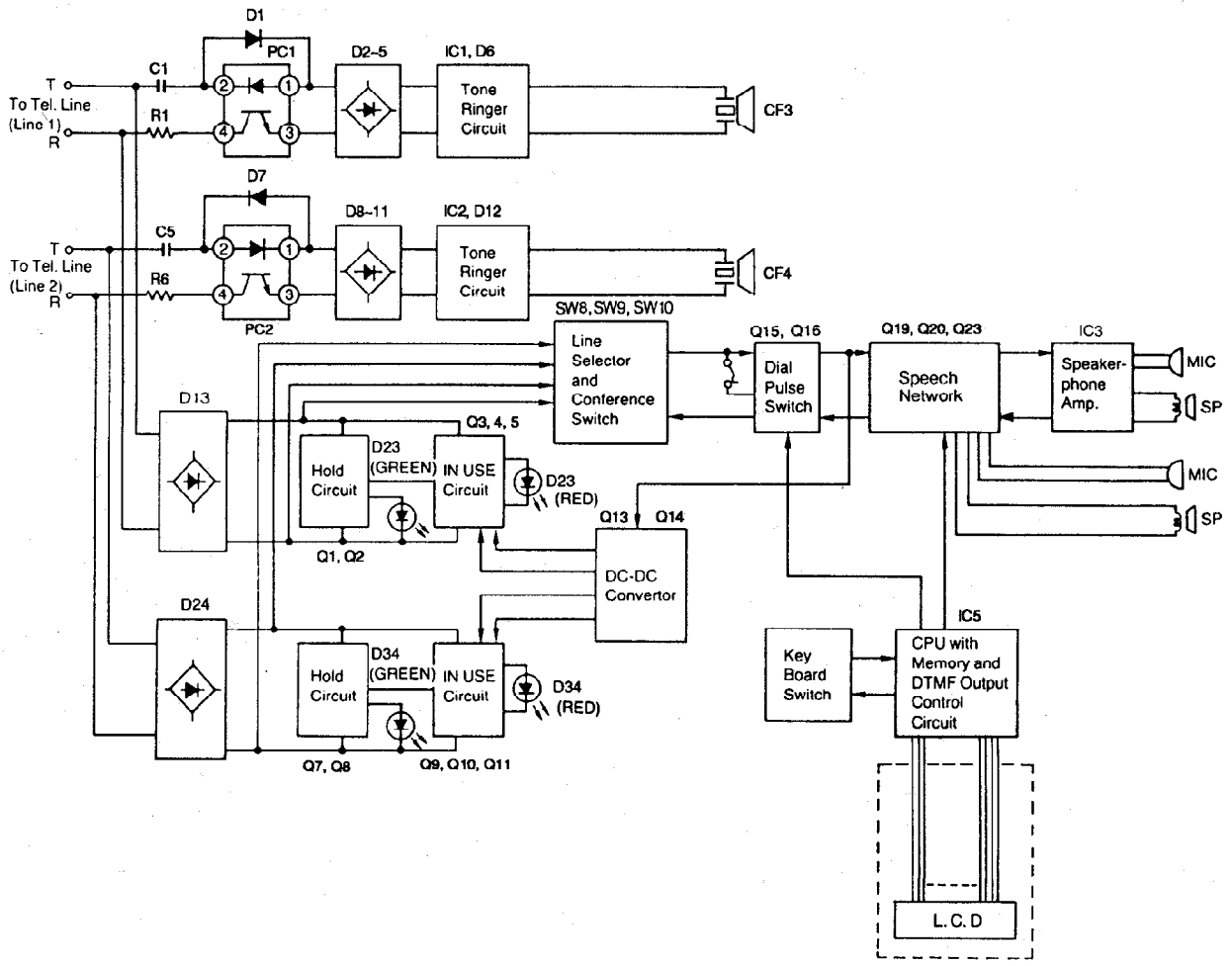
■ FOR SCHEMATIC DIAGRAM

Notes:

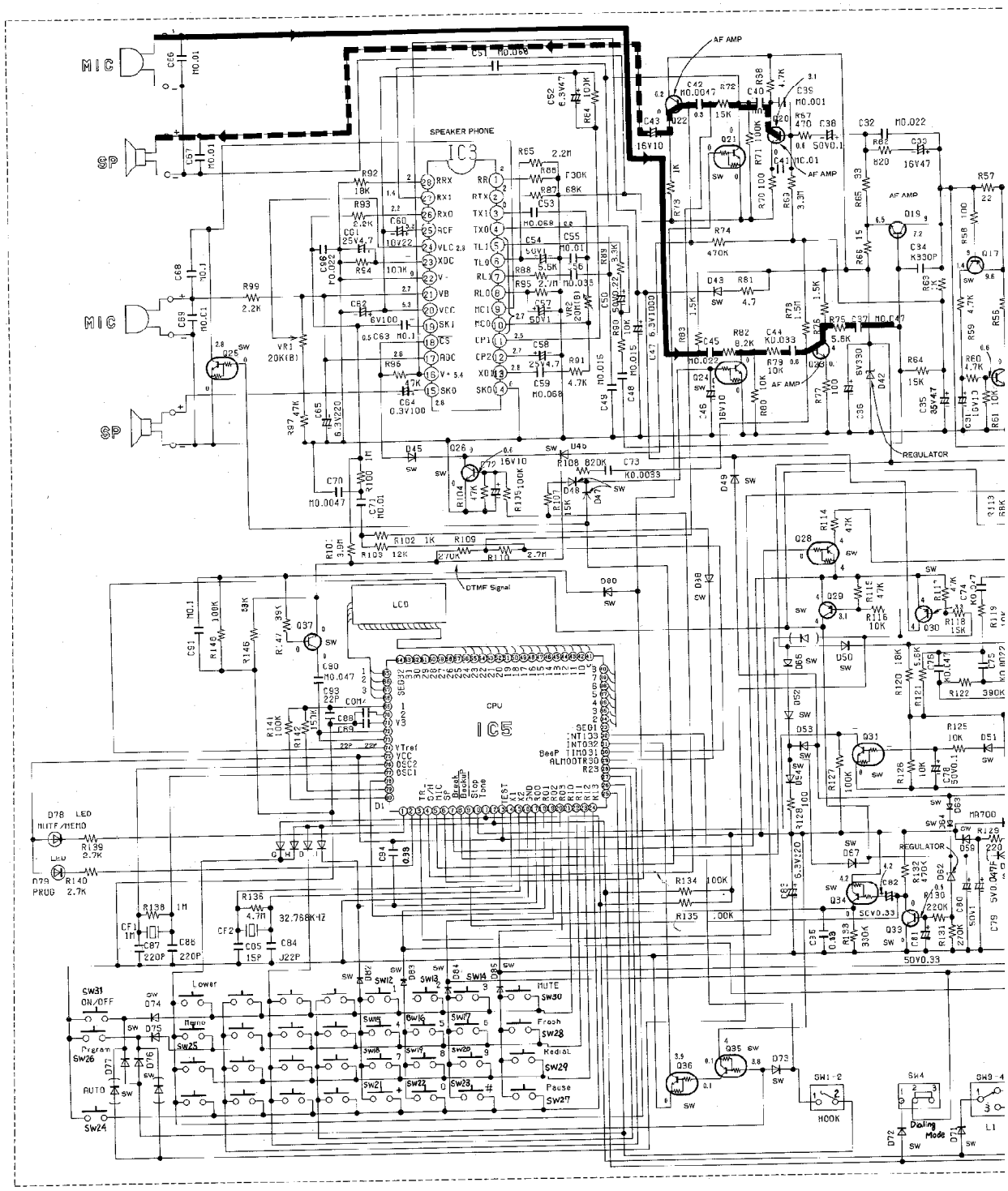
1. SW1 : Hook switch in "OFF HOOK" position.
2. SW2, 3 : Ringer Volume selector switch in "HIGH" position.
3. SW4 : Dialing Mode selector switch in "TONE" position.
4. SW5, 6: Line mode switch in "A" position.
5. SW7 : Central Office Line selector switch.
6. SW8 : Conference switch.
7. SW9 : Line 1 switch.
8. SW10 : Line 2 switch.
9. SW11 : Hold switch.
10. DC voltage measurement are taken with electronic voltmeter from negative terminal of battery. (Add 40 mA to telephone line from the loop simulator.) Handset Mode (Off Hook Position)
11. This schematic diagram may be modified at any time with the development of new technology.
12. Important safety notice
The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.



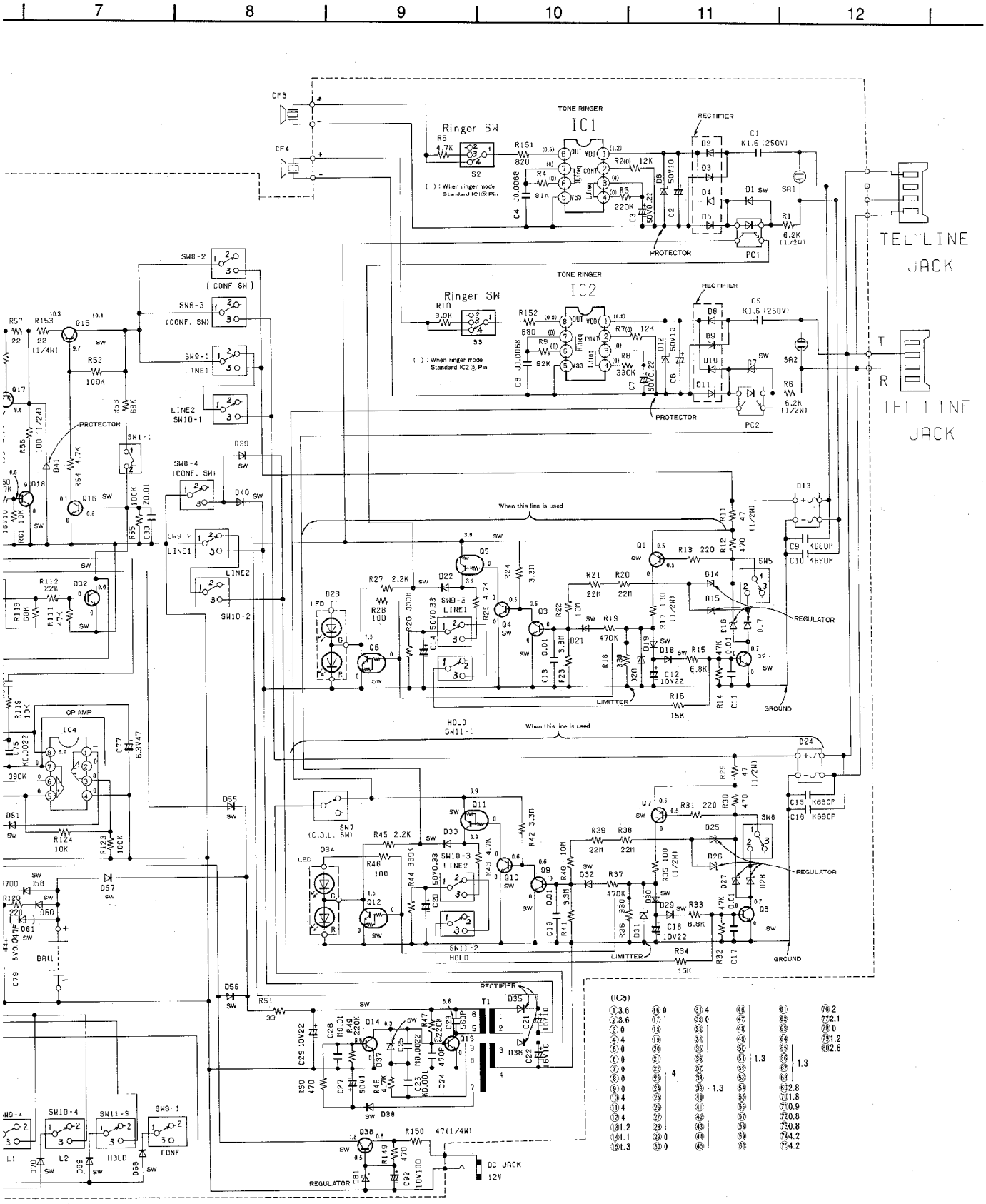
■ BLOCK DIAGRAM



SCHEMATIC DI



DIAGRAM


7
8
9
10
11
12
TONE RINGER
IC1
IC2
RECTIFIER
Ringer SW
PROTECTOR
TEL LINE JACK
REGULATOR
LIMITTER
GROUND
When this line is used
OP AMP
DC JACK 12V
HOLD
CONF

IC BLOCK DIAGRAM

IC3 PQVISC77655S

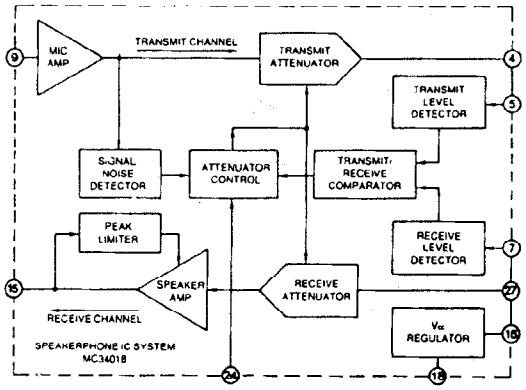


Fig. 9

IC1, 2 PQVIBA6565A

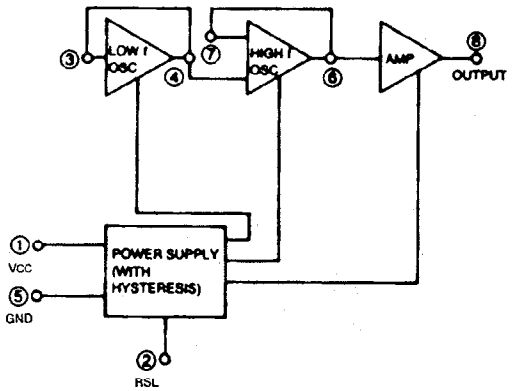


Fig. 10

ADJUSTMENT

Perform the following adjustment after replacing IC3 and VR2.

Test Equipment:

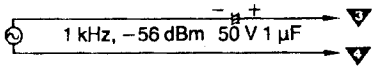
Loop Simulator
RC Oscillator
VTVM

Preparation:

1. Set the unit's controls as follows:
   A. SP-PHONE SWITCH—"ON"
   B. MUTE SWITCH—"OFF"
   C. VOLUME CONTROL—"MAX"
2. Connect Test Points ▼-▼.
3. Set the variable resistor of the loop simulator to maximum resistance (fully counterclockwise).
4. Connect the unit to the loop simulator.
5. Make all adjustments in a quiet room.
6. After adjustment are made, disconnect the Test point ▼-▼.

Transmission Level:

1. Set the loop simulator selector switch to "TX".
2. Connect the RC Oscillator to Test Point ▼ - ▼, and connect an electrolytic capacitor (50 V, 1 µF) as shown below.
3. Set RC Oscillator to 1 kHz, −56 dBm.



4. Connect the VTVM to Test Point ▼ (−) - ▼ (+).
5. Adjust VR2 for a reading of −23 dBm, ±0.5 dB, on the VTVM.

Please refer to Circuit Board and wiring Connection Diagram which is located test points (▼).

Schematic Diagram of Loop Simulator

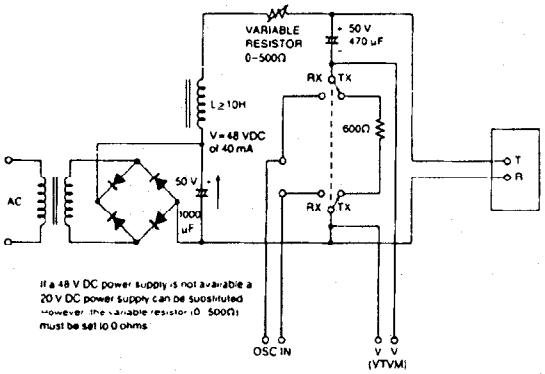


Fig. 11

HANDSET PARTS LOCATION

(JX2PE203Y Type)

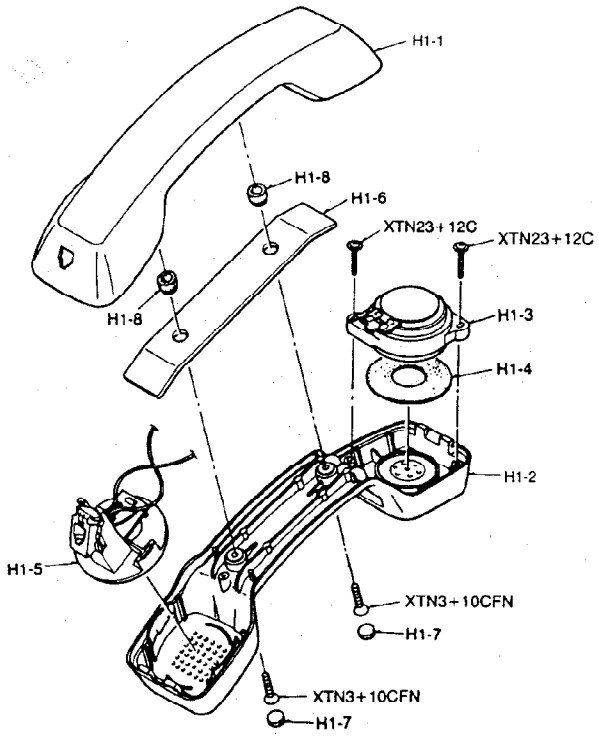


Fig. 12

(JX2PE403Y Type)

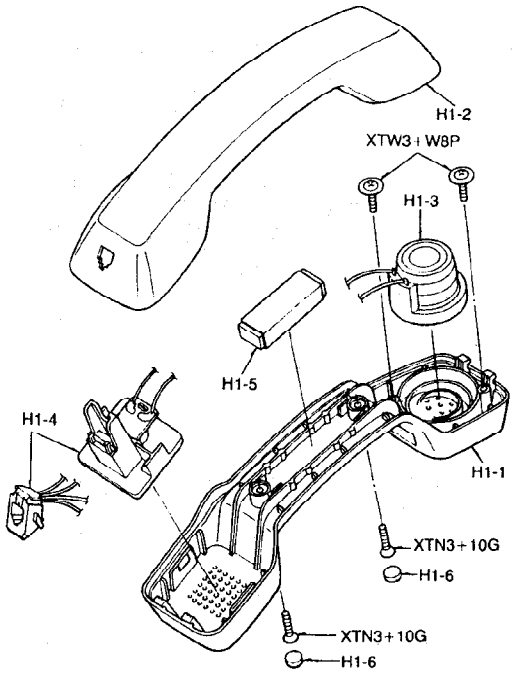


Fig. 13

CABINET & ELECTRICAL PARTS LOCATION

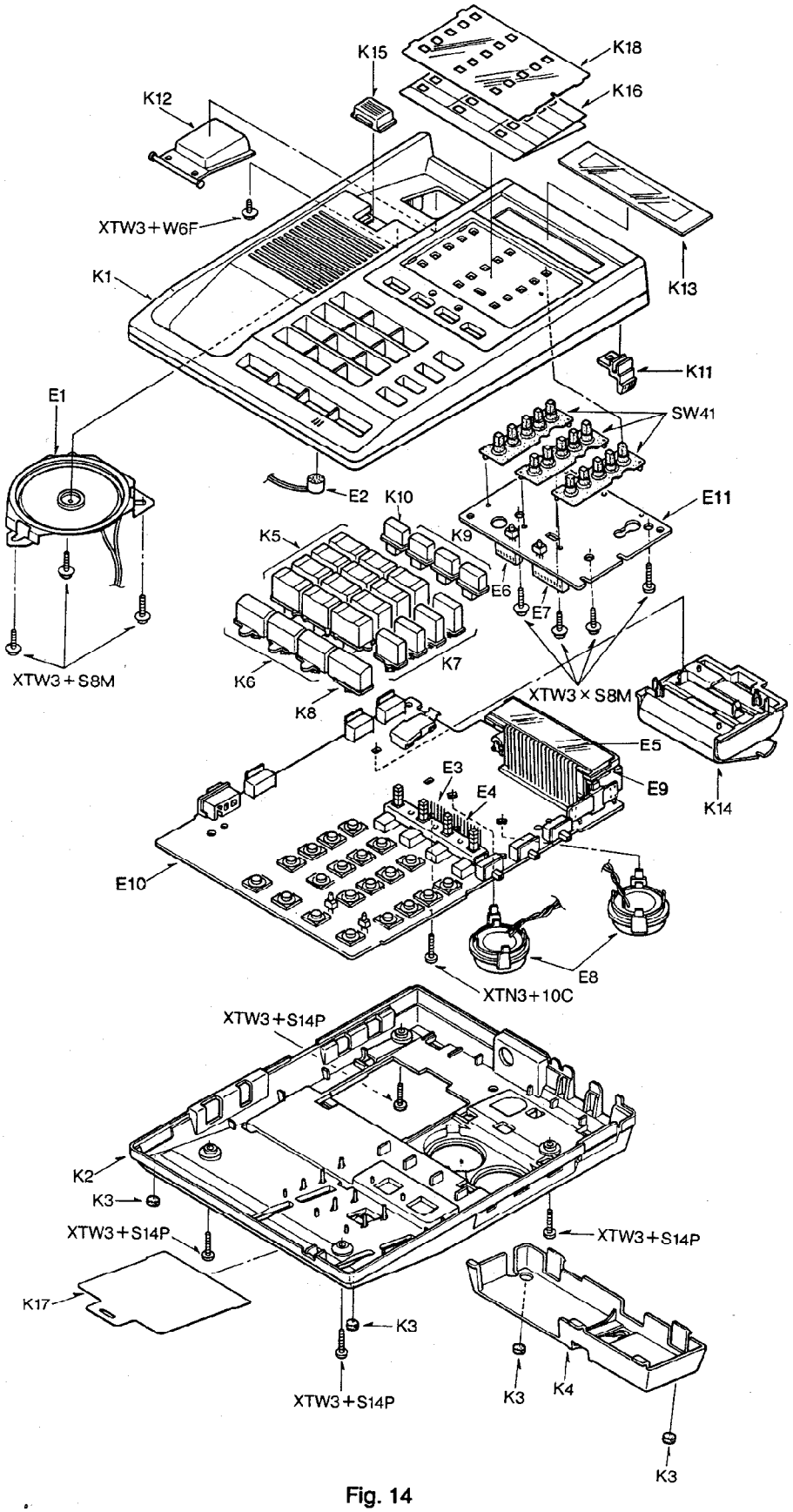


Fig. 14

ACCESSORIES & PACKING MATERIALS

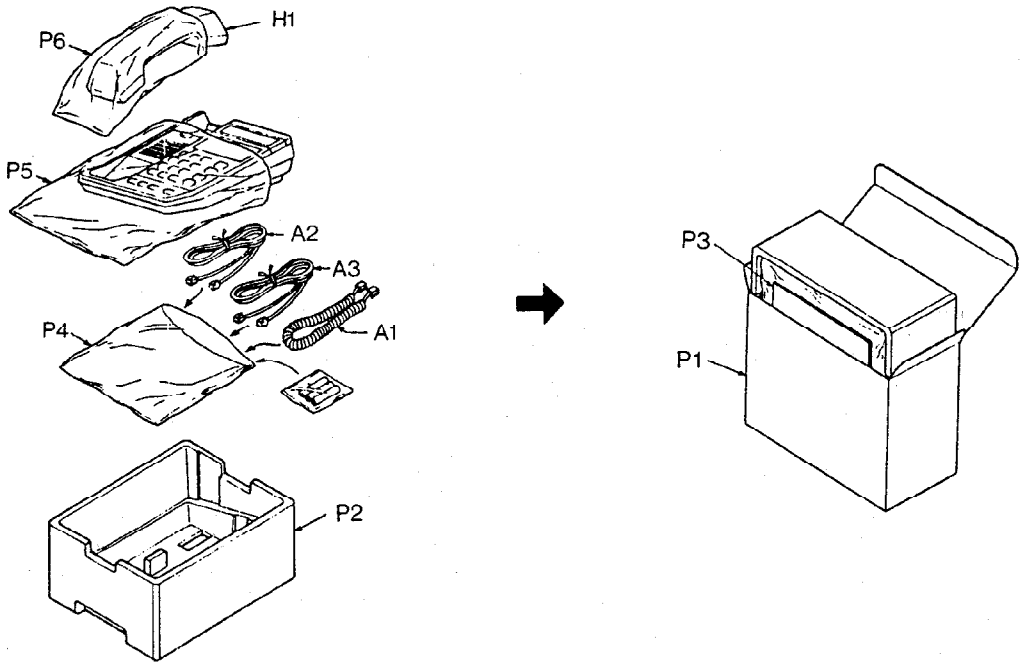


Fig. 15

REPLACEMENT PARTS LIST

Model KX-T3155-1

Notes:

1. Printed circuit board assembly with mark (NLA) is no longer available after production discontinuation of the complete set.
2. Important safety notice.
   Components identified by the ⚠ mark special characteristics important for safety. when replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms(Ω) k=1000Ω,M=1000kΩ
   All capacitors are in MICRO FARADS(μF) P=μμF
   *Type &Wattage of Resistor
   Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W

*Type & Voltage of Capacitor
Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBT,PQCBC : Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG : Polyster
PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECQMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		0J:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description		Pcs
INTEGRATED CIRCUITS, TRANSISTORS & DIODES				
IC1, 2	PQVIBA6565A	IC		2
IC3	PQVISC77655S	IC		1
IC4	AN6552	IC	S	1
IC5	PQVI4608A14F	IC		1
Q1, 7	2SA1625	Transistor(Si)		2
Q2, 8, 16	2SB662B	Transistor(Si)		3
Q3, 4, 9 , 10, 14, , 18, 32 , 33	2SC1740S	Transistor(Si)	S	8
Q5, 11, 28 , 34, 35	DTA144A	Transistor(Si)	S	5
Q6, 12, 25 , 31, 36	DTC144A	Transistor(Si)	S	5
Q13	2SD1302	Transistor(Si)		1
Q15	2SA1626	Transistor(Si)		1
Q17, 29, 30	2SA933	Transistor(Si)	S	3
Q19, 38	2SC2120	Transistor(Si)	S	2
Q20, 22 , 23, 26, 37	2SD1819A	Transistor(Si)	S	5
Q21	PQVTBB1A4M	Transistor(Si)		1
Q24	PQVTBB1J3P	Transistor(Si)		1
D1~5, 7~11 ,18, 19, 21 , 22, 29, 30 . 32, 33, 35 ~38, 43, 45 ~49, 51~57 , 60, 61, 63 , 64, 66~77 , 80, 83 ~86	MA165	Diode(Si)	S	56 ⚠
D6, 12	MA4300	Diode(Si)	S	2 ⚠
D13, 24	PQVDS1YB40F1	Diode(Si)		2
D14, 25	MA4200	Diode(Si)	S	2
D15, 26	MA4110	Diode(Si)	S	2
D16, 27	PQVD05AZ16	Diode(Si)	S	2
D17, 28	PQVD05AZ12	Diode (Si)	S	2
D20, 31	MA4030	Diode (Si)	S	2
D23, 34	LN138WAL3	LED		2
D39, 40	PQVDS5688G	Diode (Si)	S	2
D41	MA4180	Diode (Si)	S	1
D42	MA7062	Diode (Si)		1
D50, 82	MA161	Diode (Si)		2
D58, 59	MA700	Diode (Si)	S	2
D62	PQVDHZ3ALL	Diode (Si)		1
D78, 79	LN28RPL	LED		2
D81	MA4062	Diode (Si)	S	1
D87	MA723	Diode (Si)		1
SWITCHES				
SW1	ESE14A211	Switch, Hook		1
SW2, 3	PQSS3A17W	Switch, Ringer		2
SW8~11	PQSHX046Z	Switch, Line Seletor		1
SW4~7	PQSS2A27W	Switch, Line Mode, Dialing Mode, C.O.L		4
SW12~31	PQSH1A33Z	Switch, Dialing, Flash, Redial, etc.		20
SW41	PQSF87Z	Key, Direct		1
JACKS				
JJ1	PQJJ1B4Y	Jack, DC		1
JJ2	PQJJ1TA11Z	Jack, Telephone (2 wiers)		1 ⚠
JJ3	PQJJ1TB15Z	Jack, Telephone (4 wiers)		1 ⚠
JJ4	PQJJ1TB10Z	Jack, Handset		1
CABINET PARTS				
K1	PQKM154Z8	Upper Cabinet		1
K2	PQKF140V7	Lower Cabinet		1
K3	PQHG316Z	Rubber Parts		4
K4	PQKL22Z7	Stand		1
K5	PQBCX71Z	Button, 12 Key		1
K6	PQBCX72Z	Button, Flash, Mute, Redial		1
K7	PQBCX74Z	Button, Auto, Memo, Program, Pause/Save		1
K8	PQBC187Z	Button, Speakerphone		1
K9	PQBC188Z	Button, Line Selector		1
K10	PQBC188Z1	Button, Conf.		3
K11	PQBD102Y	Knob, Volume		1
K12	PQBE19Z	Button, Hook		1
K13	PQGP68Z	LCD Panel		
K14	PQWBT3170M	Battery Case Assembly		1
K15	PQKE46Z1	Handset Holder		1
K16	PQHP5001Z	Telephone Card		1
K17	PQHP599Z	Memo Card		1
K18	PQHR5089Z	Transparent Cover		1
ELECTRICAL PARTS				
E1	PQAS65P06V	Speaker		1
E2	PQJM117Z	Microphone		1
E3	PQJP5D5Z	Connector, 5 Pin (CN1)		1
E4	PQJP9D56Z	Connector, 9 Pin (CN2)		1
E5	PQADHLC9555	Liquid Crystal Display		1
E6	PQJS6B30Z	Connector Socket, 6Pin		1
E7	PQJS9B30Z	Connector Socket, 9Pin		1
E8	PQWHT3170M	Buzzer Assembly		2
E9	PQHR9224Z	LCD Holder		1
E10	PQWP1T3155M1	P.C.Board Assembly (NLA)		1
E11	PQWP2T3155M	P.C.Board Assembly , Dialing (NLA)		1
HANDSET PARTS				
H1	PQJX2PE403Y	Handset Assembly		1
	JX2PE203Y Type			
H1-1	PQKF34X6	Upper Cabinet		1
H1-2	PQKM36G6	Lower Cabinet		1

Ref. No.	Part No.	Part Name & Description	Pcs
H1-3	PQJE54Z	Earpiece Speaker	1
H1-4	PQHR9101Z	Cushion	1
H1-5	PQJM110Z	Mouthpiece Microphone	1
H1-6	PQUL59Z	Weight	1
H1-7	PQHG402Z	Rubber Cap	2
H1-8	PQHG412Z	Rubber Spacer	2
	JX2PE403Y Type		
H1-1	PQKM121Y81	Lower Cabinet	1
H1-2	PQKF104Z81	Upper Cabinet	1
H1-3	PQAX4P03Z	Earpiece Speaker	1
H1-4	PQWMJX403Y	Mouthpiece Microphone Assembly	1
H1-5	PQHM32Y	Weight	1
H1-6	PQHG695W	Rubber Cap	2
	OTHERS		
VR1	PQVAL204B24A	Volume Control, 20KΩ(B)	1
VR2	PQNB3A00B24M	Semi-Fixed,10KΩ(B)	1
CF1	PQVBB800J1	Ceramic Filter	1
CF2	PQVCL3276N6Z	Ceramic Filter	1
PC1, 2	PQVITLP521	Electric Transducer(Photo Coupler)	2 ⚠
SA1, 2	PQVDSAE310F1	Varistor (Surge Absorber) S	2 ⚠
T1	PQLT9Z1A	Transformer	1
	ACCESSORIES		
A1	PQJA30T	Handset Cord	1
A2	PQJA59Y	Telephone Cord (2 wires) S	1
A3	PQJA48Y	Telephone Cord (4 wires) S	1
	PACKING MATERIALS		
P1	PQPK599X	Gift Box	1
P2	PQPN838Z	Pad	1
P3	PQQX5554Y	Instruction Book	1
P4	XZB15X25A04	Protection Cover (for Accessories)	1
P5	XZB28X40A01	Protection Cover (for Set)	1
P6	PQPH75Z	Protection Cover (for Handset)	1

Ref No.	Part No.	Value	Ref No.	Part No.	Value
	RESISTORS				
R1	ERDS1TJ622	6.2k ⚠	R29	ERDS1TJ470	47
R2	PQ4R10XJ123	12k	R30	PQ4R10XJ471	470
R3	PQ4R10XJ224	220k	R31	PQ4R10XJ221	220
R4	PQ4R10XJ913	91k	R32	ERD16TJ473	47k
R5	PQ4R10XJ472	4.7k	R33	PQ4R10XJ682	6.8k
R6	ERDS1TJ622	6.2k ⚠	R34	PQ4R10XJ153	15k
R7	PQ4R10XJ123	12k	R35	ERDS1TJ101	100
R8	PQ4R10XJ334	330k	R36	PQ4R10XJ331	330
R9	PQ4R10XJ823	82k	R37	PQ4R10XJ474	470k
R10	PQ4R10XJ472	4.7k	R38	ERC14GK226	22M
R11	ERDS1TJ470	47	R39	ERC14GK226	22M
R12	PQ4R10XJ471	470	R40	ERD25TJ106	10M
R13	PQ4R10XJ221	220	R41	ERD16TJ335	3.3M
R14	ERD16TJ473	47k	R42	ERD16TJ335	3.3M
R15	PQ4R10XJ682	6.8k	R43	PQ4R10XJ472	4.7k
R16	PQ4R10XJ153	15k	R44	ERD16TJ334	330k
R17	ERDS1TJ101	100	R45	PQ4R10XJ222	2.2k
R18	PQ4R10XJ331	330	R46	PQ4R10XJ101	100
R19	PQ4R10XJ474	470k	R47	PQ4R10XJ224	220k
R20	ERC14GK226	22M	R48	PQ4R10XJ472	4.7k
R21	ERC14GK226	22M	R49	PQ4R10XJ224	220k
R22	ERD25TJ106	10M	R50	PQ4R10XJ471	470
R23	PQ4R10XJ335	3.3M	R51	ERD16TJ330	33
R24	ERD16TJ335	3.3M	R52	PQ4R10XJ104	100k
R25	ERD16TJ472	4.7k	R53	PQ4R10XJ683	68k
R26	ERD16TJ334	330k	R54	ERD16TJ472	4.7k
R27	ERD16TJ222	2.2k	R55	PQ4R10XJ104	100k
R28	PQ4R10XJ101	100	R56	ERDS1TJ101	100

Ref No.	Part No.	Value	Ref No.	Part No.	Value
R57	ERD25TJ220	22	R107	PQ4R10XJ153	15k
R58	PQ4R10XJ101	100	R108	PQ4R10XJ824	820k
R59	PQ4R10XJ472	4.7k	R109	PQ4R10XJ105	1M
R60	PQ4R10XJ472	4.7k	R110	PQ4R10XJ275	2.7M
R61	PQ4R10XJ103	10k	R111	ERD16TJ473	47k
R62	ERD16TJ821	820	R112	ERD16TJ223	22k
R63	PQ4R10XJ102	1k	R113	PQ4R10XJ124	120k
R64	PQ4R10XJ153	15k	R114	ERD16TJ473	47k
R65	PQ4R10XJ330	33	R115	PQ4R10XJ473	47k
R66	PQ4R10XJ150	15	R116	PQ4R10XJ103	10k
R67	PQ4R10XJ471	470	R117	PQ4R10XJ473	47k
R68	PQ4R10XJ472	4.7k	R118	PQ4R10XJ153	15k
R69	PQ4R10XJ335	3.3M	R119	ERD16TJ103	10k
R70	PQ4R10XJ101	100	R120	PQ4R10XJ183	18k
R71	PQ4R10XJ104	100k	R121	PQ4R10XJ562	5.6k
R72	PQ4R10XJ153	15k	R122	PQ4R10XJ394	390k
R73	PQ4R10XJ102	1k	R123	PQ4R10XJ104	100k
R74	PQ4R10XJ474	470k	R124	PQ4R10XJ103	10k
R75	PQ4R10XJ822	8.2k	R125	PQ4R10XJ103	10k
R76	PQ4R10XJ152	1.5k	R126	PQ4R10XJ103	10k
R77	PQ4R10XJ101	100	R127	PQ4R10XJ104	100k
R78	PQ4R10XJ155	1.5M	R128	ERD16TJ101	100
R79	ERD16TJ153	15k	R129	ERD16TJ221	220
R80	ERD16TJ103	10k	R130	PQ4R10XJ224	220k
R81	ERD16TJ4R7	4.7	R131	PQ4R10XJ274	270k
R82	ERD16TJ822	8.2k	R132	PQ4R10XJ474	470k
R83	ERD16TJ152	1.5k	R133	PQ4R10XJ334	330k
R84	ERD16TJ104	100k	R134	PQ4R10XJ104	100k
R85	PQ4R10XJ225	2.2M	R135	ERD16TJ104	100k
R86	ERD16TJ303	30k	R136	PQ4R10XJ475	4.7M
R87	PQ4R10XJ683	68k	R137	PQ4R10XJ101	100
R88	ERD16TJ562	5.6k	R138	PQ4R10XJ105	1M
R89	PQ4R10XJ332	3.3k	R139	ERD16TJ272	2.7k
R90	PQ4R10XJ153	15k	R140	ERD16TJ272	2.7k
R91	PQ4R10XJ472	4.7k	R141	ERD16TJ104	100k
R92	ERD16TJ183	18k	R142	ERD16TJ154	150k
R93	ERD16TJ222	2.2k	R143	Not Used	
R94	PQ4R10XJ104	100k	R144	Not Used	
R95	PQ4R10XJ275	2.7M	R145	Not Used	
R96	PQ4R10XJ473	47k	R146	PQ4R10XJ333	33k
R97	PQ4R10XJ473	47k	R147	PQ4R10XJ393	390k
R98	Not Used		R148	PQ4R10XJ104	100k
R99	ERD16TJ222	2.2k	R149	PQ4R10XJ471	470
R100	PQ4R10XJ274	270k	R150	ERD25TJ470	47
R101	PQ4R10XJ105	1M	R151	PQ4R10XJ821	820
R102	PQ4R10XJ102	1k	R152	PQ4R10XJ681	680
R103	PQ4R10XJ123	12k	R153	ERD25TJ220	22
R104	ERD16TJ473	47k			
R105	PQ4R18XJ223	22k			
R106	Not Used				

	CAPACITORS				
C1	ECQE2165KF	1.6 ⚠	C19	PQCUV1H103KB	0.01
C2	ECEA1HU100	10 ⚠	C20	ECEA1HKSR33	0.33
C3	ECEA1HUR22	0.22	C21	ECEA1HU100	10 S
C4	ECQM1H682JV	0.0068	C22	ECEA1CKS100	10
C5	ECQE2165KF	1.6 ⚠	C23	PQCUV1H561JC	560P
C6	ECEA1HU100	10 ⚠	C24	PQCUV1H471JC	470P
C7	ECEA1HUR22	0.22	C25	PQCBC1C222MX	0.0022
C8	ECQM1H682JV	0.0068	C26	PQCBC1H102KB	0.001
C9	ECKD2H681KB	680P	C27	ECEA50Z1	1
C10	ECKD2H681KB	680P	C28	PQCUV1H103KB	0.01
C11	PQCUV1H103KB	0.01	C29	ECEA1HU220	22 S
C12	ECEA1HU220	22 S	C30	PQCUV1H103KB	0.01
C13	PQCUV1H103KB	0.01	C31	ECEA1CKS100	10
C14	ECEA1HKSR33	0.33	C32	PQCUV1H223KB	0.022
C15	ECKD2H681KB	680P	C33	ECEA1CKS470	47 S
C16	ECKD2H681KB	680P	C34	PQCUV1H681JC	680P
C17	PQCUV1H103KB	0.01	C35	ECEA1VKS4R7	4.7
C18	ECEA1CKS220	22 S	C36	ECEA0JU331	330

Ref No.	Part No.	Value	Ref No.	Part No.	Value
C37	PQCUV1E473MD	0.047	C68	ECUV1H104MD	0.1
C38	ECEA1HU0R1	0.1	C69	PQCBC1C103MY	0.01
C39	Not Used		C70	PQCUV1H472KB	0.0047
C40	PQCUV1C683MD	0.068	C71	PQCUV1H103KB	0.01
C41	PQCUV1H103KB	0.01	C72	ECEA1HU100	10 S
C42	PQCUV1H472KB	0.0047	C73	PQCBC1C332MX	0.0033
C43	ECEA1CKS100	10	C74	ECFD1E473KD	0.047
C44	PQCUV1E333MD	0.033	C75	PQCUV1H222KB	0.0022
C45	ECUV1H333JC	0.033	C76	ECFD1E473KD	0.047
C46	ECEA1CKS100	10	C77	ECEA1CKS470	47 S
C47	ECEA0JU102	1000	C78	ECEA1HKS0R1	0.1
C48	PQCUV1H153KB	0.015	C79	EECW0HG473Z	0.047
C49	PQCUV1H153KB	0.015	C80	ECEA1HKS010	1
C50	ECEA1HKSR22	0.22	C81	ECEA1HKSR33	0.33
C51	ECUV1H683MD	0.068	C82	ECEA1HKSR33	0.33
C52	ECEA1EU470	47 S	C83	ECEA0JK221	220
C53	PQCUV1C683MD	0.068	C84	PQCUV1H220JC	22P
C54	ECEA1HKS010	1	C85	PQCUV1H150JC	15P
C55	PQCUV1H103KB	0.01	C86	PQCBC1H221KB	220P
C56	PQCUV1E333MD	0.033	C87	PQCBC1H221KB	220P
C57	ECEA1HKS010	1	C88	PQCUV1H220JC	22P
C58	ECEA1EU4R7	4.7	C89	PQCUV1H220JC	22P
C59	PQCUV1C683MD	0.068	C90	PQCUV1E473MD	0.047
C60	ECEA1CKS220	22 S	C91	PQCUV1E104ZF	0.1
C61	ECEA1VKS4R7	4.7 S	C92	ECEA1CK101	100 S
C62	ECEA1AU101	100 S	C93	PQCUV1H220JC	22P
C63	ECUV1H104MD	0.1	C94	PQCUV1C334ZF	0.33
C64	ECEA1CK101	100 S	C95	PQCUV1C334ZF	0.33
C65	ECEA0JK221	220	C96	PQCUV1H103KB	0.01
C66	PQCUV1H103KB	0.01			
C67	PQCUV1H103KB	0.01			